



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/085,682

02/26/2002

David L. Blankenbeckler

M-12013 US

1491

32605

7590

11/21/2005

MACPHERSON KWOK CHEN & HEID LLP  
1762 TECHNOLOGY DRIVE, SUITE 226  
SAN JOSE, CA 95110

EXAMINER

PSITOS, ARISTOTELIS M

ART UNIT

PAPER NUMBER

2656

DATE MAILED: 11/21/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/085,682

Applicant(s)

BLANKENBECKLER ET AL.

Examiner

Aristotelis M. Psitos

Art Unit

2656

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 07 November 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1,4,7,10-12 and 15 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,4,7,10,11,12,15 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: \_\_\_\_\_.

Art Unit: 2656

**DETAILED ACTION.**

***Continued Examination Under 37 CFR 1.114***

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 11/7/05 has been entered.

***Claim Objections***

Claim 4 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Claim 4 depends from canceled claim 3 – not possible. The examiner interprets claim 4 as depending from claim 1 in the below OA.

***Claim Rejections - 35 USC § 103***

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 1 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Obata et al further considered with Ohkawa et al. The following analysis is made:

Claim limitation(s)	Reference(s)
1:	Obata et al

Art Unit: 2656

A first surface optical storage disc, comprising:

see abstract/figure 1

a circular substrate having a first principal surface

element 100, first principal

and an opposing second principal surface;

surface is the "top" surface, and the

second principal surface is the bottom

bumps formed on a first portion of the first principal

see embossed area 114a

surface, wherein the bumps represent pre-recorded

so represents

information;

lands formed on a second portion of the first principal surface;

see 114b description at

and

col. 6 lines 31-38

a phase-change material deposited on the first portion and the

see col. 6 lines

second portion of the first principal surface : and

61 plus

a dielectric layer sputtered over the phase-change material:

protection film 3

the first surface disk having no additional layers overlaying the

not designated see

dielectric layer, wherein a data density of the first portion is

secondary reference

less than a data density of the second portion.

As noted in the above analysis, the Obata et al reference although providing for a protection layer, does not depict such as a dielectric.

Ohkawa et al discloses the ability of having a dielectric as a protective layer.

It would have been obvious to modify the base system of Obata et al with the above teaching from Ohkawa et al, motivation is to use existing materials known in this environment for their inherent uses and hence save valuable resources such as time, etc. in creating new protective materials.

Art Unit: 2656

With respect to the 15, the pc designated in column 7 lines 16-25 is interpreted to be the polycarbonate limitation of claim 15.

### ***Response to Arguments***

Applicant's arguments filed 11/7/05 have been fully considered but they are not persuasive. Applicants' arguments against the above noted rejection focus upon the inability of the embossed area in the Obata reference as being "used" as claimed by applicants. There is no such claimed limitation. The examiner concludes that the embossed area in the Obata reference does represent "pre-recorded" information.

2. Claims 1 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takemura et al considered with Sonnenschein et al and both further considered with Phillips et al.

The following analysis is made.

Claim 1	Reference(s)
	Takemura et al ('640)
A first surface optical storage disc, comprising:	Takemura et al/see abstract, title
	Col. 1 lines 30-55
a circular substrate having a first principal surface	figure 1, top surface
and an opposing second principal surface;	bottom surface is the claimed second principal surface
bumps formed on a first portion of the first principal	see secondary reference to
surface, wherein the bumps represent pre-recorded information;	Sonnenschein et al,
	col. 2 lines 21 plus
lands formed on a second portion of the first principal surface;	lands in rewriteable
and	area of primary reference .

Art Unit: 2656

a phase-change material deposited on the first portion and the second portion of the first principal surface : and

see secondary reference to  
Sonnenschein et al,  
col. 2 lines 42-68 for instance

a dielectric laver sputtered over the phase-change material:  
the first surface disk having no additional layers overlaying the dielectric layer, wherein-a data density of the first portion is less than a data density of the second portion.

see Phillips et al discussion  
with respect to the protective  
overcoat and the substrate

In the above analysis, the examiner relies upon the primary reference to Takemura et al for disclosing a hybrid rom/ram disc having the claimed portions and the first and second principal surfaces. The reference also includes a description of lands in the rewritable area, which has been interpreted as the second portion.

There is no clear depiction of either "bumps" and or the recording material as well as the newly inserted final paragraph of claim 1.

The Sonnenschein et al reference discloses in this environment the ability of having "bumps" as recorded format signal types as well as the ability of having a phase changing material for the recording layer.

It would have been obvious to modify the base system of Takemura et al with the above teachings form Sonnenschein et al, motivation is to rely upon existing formats/materials and hence save resources in redesigning new ones. Alternatively, the use of "embossed" areas is also noted in column 8, lines 22-28 in Takemura et al, and can be relied upon for teaching the use of "bumps" for pre- recorded information format type.

The ability of having a protective overcoat as well as the pc substrate is not clearly depicted in the above base reference. Phillips et al teaches in this environment such abilities.

Art Unit: 2656

It would have been obvious to modify the base system of Takemura et al and Sonnenschein et al with the above additional teachings from Phillips et al for their desired abilities. Again, use of such existing abilities saves valuable resources as well as the protective and flexibility thereof.

With respect to the data densities, the examiner considers such as inherently present, i.e., rom area has a lower data density than the rw area since as depicted in Takemura et al (figure 1), the areas themselves are different (the rom area is less than the ram area). Alternatively, if applicant can convince the examiner that such is not the case, then additional support/reliance upon Kumagai – see figure 6 and its description.

### ***Response to Arguments***

Applicant's arguments filed 11/7/05 have been fully considered but they are not persuasive. The examiner has relied upon the secondary reference to Sonnenschein – 4975358 – for teaching the “bumps”.

3. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over the art as applied to claim 1 above as stated in paragraphs 1 and/or 2, and further in view of Muller and Nakashima.

The data densities described in this claim are well known for discs in this environment. Muller at col. 3 lines 50-68 and Nagashima at col. 1 lines 30-54.

It would have been obvious to modify the base system of the references relied upon as stated above with the particular recording densities, motivation is to permit the formed disc to be compatible with standard record data densities in this environment and hence increase the marketability of such.

4. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over the art as applied to claim 1 as relied upon in either paragraphs 1 or 2 above, and further in view of Pan et al.

The above base reference fails to clarify the material limitation of claim 7. Such material(s) are further taught by the Pan et al reference for use in this environment.

It would have been obvious to modify the base system as relied upon in either paragraphs 1 or 2 above with the additional teaching from Pan et al, motivation is to use equivalent alternatives and hence

Art Unit: 2656

such a selection would be an obvious manufacturing capability for such reasons as availability, cost, reliability, etc. No unexpected results are seen to occur from selecting such alternative materials.

***Response to Arguments***

The rejection is maintained – no further rebuttal is necessary.

5. Claims 10 & 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over the art as applied to claim 1 above in paragraphs 1 and/or 2, and further in view of Igarashi

The limitations with respect to the size of the disc is considered obvious in view of Igarashi, which discloses discs less than 80 mm as standard. Selection of appropriate sized disc is merely an optimization of size and obvious to one of ordinary skill in the art.

It would have been obvious to modify the base system as relied upon in either paragraphs 1 or 2 and further modify them with the above additional teaching from Igarashi, motivation is to provide alternative sized discs so as to be used in a plurality of disc reproducing mechanisms.

***Response to Arguments***

The rejection is maintained – no further rebuttal is necessary.

6. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over the art as applied to claim 1 above as stated in paragraphs 1 and/or 2 above, and further in view of Nakamura et al.

With respect to the limitations of claim 12, because the Nakamura et al document discloses various thickness for the overall disc record, the specific limitation is considered merely an optimization of such, and hence obvious over the combination of references in order to optimize the record medium and save on manufacturing expenses with respect to the profile of the final disc product.

***Response to Arguments***

The rejection is maintained – no further rebuttal is necessary.



Art Unit: 2656

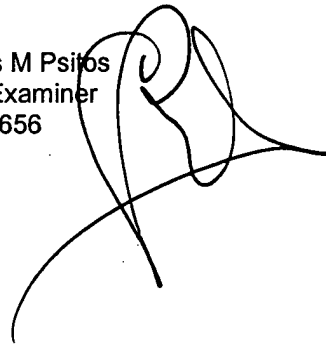
**Conclusion**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Aristotelis M. Psitos whose telephone number is (571) 272-7594. The examiner can normally be reached on M-Thursday 8 - 3.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hoa T. Nguyen can be reached on (571) 272-7579. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Aristotelis M Psitos  
Primary Examiner  
Art Unit 2656

A handwritten signature in black ink, appearing to be 'A. Psitos', written over the printed name and title of the examiner.

amp